

REMARKS

In view of the following remarks, reconsideration of the rejections and further consideration are requested.

Claims 1-5 and 8-12 are pending in this application. Claims 1, 3-5 and 8-12 are amended herein, and claims 6 and 7 were previously cancelled. No new matter has been added.

During a review of the substitute specification, a typographical error was discovered, and is corrected herein. That is, the heading “aBRIEF SUMMARY OF THE INVENTION” has been amended to be --BRIEF SUMMARY OF THE INVENTION--. An amendment making this correction to the substitute specification is contained herein. No new matter has been added.

Claims 3 and 5 have been objected to on the basis that in their respective first lines, “The recording device control unit” should read “The recording device control apparatus.” The Applicants have amended claims 3 and 5 as suggested by the Examiner.

Claims 1-12 have been rejected under 35 U.S.C. § 112, first paragraph, on the basis that they fail to comply with the written description requirement because claims 1-12 recite “a focus request” and claims 5 and 8 recite “a position proximate.” Moreover, the Examiner asserted that the Applicants are required to cancel any new matter.

The Applicants would like to direct the Examiner’s attention to page 12, line 27 to page 13, line 1 of the original specification, where a judgment unit 131 is described as having “functions of focusing on one of the transfer requests connected to the transfer request list in the queue management unit 120.” Moreover, on page 13, lines 14-19 of the original specification, a request judgment unit 133 is described as having “a function of sending, to a transfer unit 140, information showing the focus transfer request, when no transfer request that has a file handle identical to the transfer target data of the focus transfer request is before the focus transfer request in the transfer request list of the queue management unit 120.” Thus, because the focus transfer request is described in the original specification, it is supported by the specification and does not constitute new matter.

Regarding the recitation of “a position proximate” in claims 5 and 8, claims 5 and 8 have been amended by replacing “a position proximate” with “closest to.” Moreover, the original specification describes this feature (i.e., “closest to”) on page 22, in lines 14-18, where a

judgment unit 132 is described as judging in the affirmative at step S06, “the management information judgment unit 132 focuses on the closest transfer request, to the focus transfer request, that is for management information (step S07), and step S06 is performed.” Moreover, on page 22, in lines 19-22 of the original specification, a request judgment unit 133 is described as judging in the affirmative at step S08, “the request judgment unit 133 focuses on transfer request closest to the focus transfer request (step S09), and step S08 is performed.”

Thus, because the transfer request being closest to the focus transfer request is described in the original specification, it is supported by the specification and does not constitute new matter.

Claims 6 and 7 were previously cancelled, thus the 35 U.S.C. § 112 rejection of these claims is moot.

Accordingly, the Applicants respectfully request withdrawal of the 35 U.S.C. § 112, first paragraph rejection of claims 1-12.

Claims 1-12 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Taniai et al. (U.S. Patent No. 5,438,665) (hereinafter referred to as “Taniai”).

The above-mentioned rejection is not applicable to amended claim 1 for the following reasons.

Claim 1 recites a recording device control apparatus including, in part, a queue management unit operable to manage a processing order of received transfer requests, a transfer criterion judgment unit operable to determine which of the transfer requests to set as a focus request based on a predetermined transfer criterion, and a management information judgment unit operable to judge whether or not the focus request is a transfer request for management information, and on judging that the focus request is a transfer request for management information, judge with reference to the processing order whether or not a transfer request for management information exists before the focus request. Moreover, the apparatus of claim 1 includes a transfer request specification unit operable to: (1) judge with reference to the processing order whether or not a transfer request having type information identical to the type information of the focus request exists before the focus request; (2) specify data relating to the focus request as a transfer target when the management information judgment unit judges that a

transfer request for management information does not exist before the focus request; and, (3) set a transfer request for management information closest to the focus transfer request, as the focus request, when the management information judgment unit judges that a transfer request for management information exists before the focus request.

Thus claimed, the present invention provides a recording device controlling apparatus that controls transfer of data relating to transfer requests so that inconsistencies are avoided in data of management information, when a transfer order is changed, in order to transfer specific data prioritively (see page 3, lines 1-4 of the substitute specification).

Taniai discloses a direct memory access controller in which transfer control information necessary for the next transfer request is generated beforehand, and is immediately output after the request of the above next direct memory access (DMA) transfer request occurs (see col. 2, lines 48-53 and col. 4, lines 48-59).

Specifically, Taniai discloses an arithmetic and logic unit ALU 27 that (included in a transfer control circuit 22) generates an address value and a byte count relating to a requested channel for a next data transfer under the control of a circuit control 28. The generated information is registered, through an internal bus, in an area of a temporary register 24 relating to a channel. At the same time, the address value and the byte count in a transfer control information register 25 relating to a requested channel are replaced with the generated address value and byte count. In this manner, transfer control information necessary for processing a next transfer request is registered in a temporary register 24, and is immediately output to the system bus 15 when the next transfer request occurs (see col. 6, lines 46-52).

In contrast to the present invention, Taniai does not disclose that the transfer control circuit 22 includes a transfer criterion judgment unit, a management information judgment unit and a transfer request specification unit, such that transfer requests can be processed prioritively in an order other than the transfer order (i.e., the order they are received).

Instead Taniai discloses executing transfer requests only in the order that they are received. Moreover, Taniai discloses a transfer control circuit 22, a temporary register 24, a transfer control information register 25, and a transfer management circuit 29 that transfer control information necessary for processing a next transfer request registered in the temporary

register 24, and immediately output to the system bus 15 when the next transfer request occurs. Furthermore, in Taniai, there is no suggestion or disclosure to modify the system of Taniai to include a transfer criterion judgment unit, a management information judgment unit and a transfer request specification unit. In other words, Taniai does not disclose

. . . .a queue management unit operable to manage a processing order of the received transfer requests; a transfer criterion judgment unit operable to determine which of the transfer requests to set as a focus request based on a predetermined transfer criterion; a management information judgment unit operable to judge whether or not the focus request is a transfer request for management information, and on judging that the focus request is a transfer request for management information, judge with reference to the processing order whether or not a transfer request for management information exists before the focus request; and a transfer request specification unit operable to: (1) judge with reference to the processing order whether or not a transfer request having type information identical to the type information of the focus request exists before the focus request; (2) specify data relating to the focus request as a transfer target when the management information judgment unit judges that no transfer request for management information exists before the focus request; and, (3) set the transfer request for management information closest to the focus transfer request, as the focus request, when the management information judgment unit judges that a transfer request for management information exists before the focus request, as recited in claim 1.

Because Taniai does not disclose the features of claim 1 as discussed above, Taniai cannot prioritively process transfer requests in an order other than the transfer order (i.e., the order in which the requests are received).

The Examiner has taken the position that a transfer control circuit as disclosed in Taniai corresponds to the transfer criterion judgment unit (i.e., as recited

in claim 1), and that a request handling means and transfer control circuit together correspond to the transfer request specification unit (i.e., as recited in claim 1). However, the request handling means and transfer control circuit of Taniai, together, do not disclose the transfer request specification unit recited in claim 1 because they do not perform the same functions as the transfer request specification unit, as discussed above.

Moreover, the Examiner asserted that the transfer control circuit of Taniai generates next data transfer requests based on the present transfer control information. However, as discussed above, the transfer control circuit and the request handling means of Taniai do not correspond to the transfer request specification unit because they do not perform the same functions as the transfer request specification unit recited in claim 1.

The Examiner also asserted that a transfer management circuit as disclosed in Taniai corresponds to the management judgment unit as recited in claim 1. However, the Examiner admitted that Taniai “does not explicitly teach the step of judging whether or not the focus request is a transfer request for management information, and on judging that the focus request is a transfer request for management information, judge with reference to the processing order whether or not a transfer request for management information exists before the focus request.” On pages 4 and 5 of the Office Action, the Examiner asserted that “it would have been obvious to a person of ordinary skill in the art to modify the transfer control information of Taniai and implement the step/method of judging whether or not the focus request is a transfer request for management information, and on judging that the focus request is a transfer request for management information, judge with reference to the processing order whether or not a transfer request for management information exists before the focus request, since it is merely an alternate arrangement that falls within the level of general skill of a worker in the art.” However, there is no such disclosure in Taniai. Moreover, it appears that the Examiner has relied upon the Applicants’ disclosure (see page 20, line 16 to page 23,

line 13) for the latter assertion. Furthermore, it has been held that “any judgment on obviousness is in a sense necessarily a reconstruction based on hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill in the art at the time the claimed invention was made and does not include knowledge gleaned only from applicant’s disclosure, such a reconstruction is proper.” In re McLaughlin 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971).

By relying on the Applicants’ specification for disclosing “the step/method of judging whether or not the focus request is a transfer request for management information, and on judging that the focus request is a transfer request for management information, judge with reference to the processing order whether or not a transfer request for management information exists before the focus request,” the Examiner has included knowledge gleaned only from Applicants’ disclosure. Accordingly, the Applicants respectfully submit that the Examiner’s assertions are the result of impermissible hindsight reasoning.

Regarding claims 11 and 12, it is submitted that they are patentable over Taniai for reasons similar to those set forth above in support of claim 1. That is, claims 11 and 12 each similarly recite, in part, *receiving transfer requests, managing a processing order of the received transfer requests, determining which of the received transfer requests to set as a focus request based on a predetermined transfer criterion, and judging whether or not the focus request is a transfer request for management information, and when the focus request is a transfer request for management information, judging with reference to the processing order whether or not a transfer request for management information exists before the focus request*. Moreover, claims 11 and 12 include judging with reference to the processing order whether or not a transfer request having type information identical to the type information of the focus request exists before the focus request, specifying data relating to the focus request as a transfer target when the management information judgment unit judges that a transfer request for management information does not exist before the focus request and when no transfer request having type information identical to the type information of the focus request exists before the focus request, and setting a transfer request for management information closest to the focus transfer request, as the focus request, when the management information judgment unit judges that a transfer

request for management information exists before the focus request.

For at least the reasons set forth above, it is respectfully submitted that the above-discussed features as recited in claims 1, 11 and 12 are not disclosed in the references applied by the Examiner. Furthermore, it is respectfully submitted that one of ordinary skill in the art at the time the invention was made would not have modified Taniai in such a manner as to result in, or otherwise render obvious, the invention of claims 1, 11 and 12. Therefore, it is respectfully submitted that claim 1, and claims 2-5 and 8-10 depending therefrom, and claims 11 and 12 are patentable over the reference relied upon in the rejection. Therefore, it is submitted that claims 1-5 and 8-12 are clearly allowable over the prior art of record.

In view of the foregoing amendments and remarks, all of the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action are respectfully solicited.

Should the Examiner believe that there are any remaining issues that must be resolved before this application can be passed to issue, it is respectfully requested that the Examiner contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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July 15, 2008